are: In extreme cases tension in the vessels is immediately restored, and the heart and lungs are filled with whole normal blood. The paramount importance of this must be evident. Contrasted with the intravenous injection of saline fluid or the intercellular injection of other fluids, it should be obvious that, whilst the latter, comparatively slowly, increase the bulk of fluid, blood both supplies resistance for the heart to act upon and is that alone through which a normal vital condition can be restored, and the nerve centres develop that energy without which the uterine muscle cannot contract and retract.

This treatment—which I submit is rational, always practicable, and, so far as my experience goes, unfailing—is based on the propositions: That no work can be done without energy; that there is no energy inherent in uterine muscle; that contraction of the uterus is wholly dependent on energy derived from the uterine nerve centres; that, deprived of blood, nerve centres do not, and cannot, develop energy; and that, in the collapse of profuse haemorrhage, there is practically stasis in the vascular system which supplies the nerve centres. Therefore, as depletion of blood is rapidly going on, instantly arrest the flow; as nerve centres are paralysed, restore their vitality; and, last, as the uterine muscle is uncontracted, now that the patient is safe and innervation is re-established, use such measures as may be necessary to secure normal firm contraction.

My personal experience, derived from the responsibility for about 5,000 parturitions, has, so far, attested the soundness of this theory and afforded proof of its practicability, in that I have never seen a death from *post-partum* haemorrhage.

NOTES ON THE TREATMENT OF MYOMA OF THE UTERUS.*

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I KNOW full well that papers innumerable have been written upon the subject of myoma of the uterus. If the last word had been said upon this important matter, it would be foolish of me to refer to it. We are, however, a long way off hearing the last word, and I want to record the opinions I have come to from my own experience. We learn far more from our own cases than from any number of books or papers, valuable as these may be.

The main result of my experience is that it is still necessary to run a tilt against the idea that uterine fibroids are usually harmless growths and had therefore better be left alone. You might think that in this advanced stage of surgery every one would have given up the idea of the harmlessness of fibroids. It is not so. Even to-day a large number of men—and some of them in high places—preach the doctrine that fibroids are only rarely dangerous, and that in the majority of cases the operative remedy is worse than the disease.

Are there many women going about to-day unconscious possessors of uterine fibroids, or, if conscious, suffering so slightly that their lives are little impeded? It is possible that there are some, but I do not believe the number to be great; still less do I believe that they will go on for any considerable length of time without troublesome symptoms and complications supervening. We have only to look at the serious condition to which some patients have been brought by the simplest of fibroids to be sceptical of any long period of immunity from suffering by the unfortunate possessor of one.

How often is a patient with a small fibroid—we will say no larger than an egg or an apple, with symptoms confined to excessive loss at the menstrual period, and slight but frequent bearing-down pain—advised to go on resting at the periods, lying down in the afternoons continually and taking medicine?

There is no doubt that this treatment will give the patient some relief, will enable her to go on, perhaps only getting slowly worse, but the number of times it will carry a patient over the menopause, carry her to a cure, is extremely few. Suppose she is between 40 and 45, the age at which fibroid is most frequent, for how many years

are you going to confine her to semi-invalidism? How soon can you say that the menopause will come? You cannot say. It is well known that the menopause is usually put off indefinitely, and in fact if the patient does not have the fibroid removed it will never come. We must never forget that more and more as the years go by women have more and more work to do; in the poorer classes it is the woman who is the hard worker; it is upon her shoulders that the main brunt of the battle of life falls, and invalidism or semi-invalidism is disastrous. It is not fair to her, her husband, her family, or her circle of friends and dependants not to give to her the most complete and rapid method of relief. Her actual existence may not be in immediate danger, but the good that she does, the work that she does, and the influence she exerts are all jeopardized.

If a fibroid causes no symptoms no one would dream of interfering with it. If, however, in the course of its growth it causes symptoms that call for medical relief, then I believe that, unless you advise removal of the fibroid, you run a serious risk of condemning your patient to a life of invalidism or to an operation when her condition has become worse, or even to a fatal ending.

After going carefully through the notes of my cases I find that the symptom most frequently met with is haemorrhage; only a little less frequent is pain. The frequent occurrence of pain, often severe but intermittent, is, I think, due to the large number of cases in which the fibroid is complicated by inflammatory disease of the appendages with adhesions, often to omentum and bowel. A very common symptom is the gradual deterioration in the general health, a thing of great importance. We have, too, special symptoms due to the special pathological conditions.

Haemorrhages, as is well known, may vary from a slight increase in the quantity lost at each period to a continuous loss, a loss so great and so lasting that it is impossible to differentiate the periods. How often has it happened that a patient comes to us for operation, above all things, when she is absolutely blanched from haemorrhage! I have seen them sometimes in such a condition that fainting follows the assumption of the upright position. An operation when they are like this is out of the question. They want rest in bed first, with good feeding and plenty of milk. Now, what I can never understand is why the patient has been allowed to get into this condition. Sometimes it is her own fault; she has refused treatment time after time. At other times it is not her fault. I do not say this lightly. I would not say it at all were I not convinced of its accuracy. I have already referred to the causes that contribute to this state of affairs. I would only add that those who think the remedy worse than the disease cannot possibly have watched many cases of fibroids, and must have founded their opinion of operative treatment upon their own experience. The very men who decry the operation as dangerous are those who make it so by delaying operation until the patient is *in extremis*.

As regards the special symptoms, it is impossible to refer to them all. I will briefly recall one or two.

I was called in some years ago by her medical attendant to see a woman suffering from persistent vomiting, which he rightly thought might be due to an abdominal tumour. The vomiting was the only symptom complained of. Its complete relief followed the removal of a large fibroid uterus.

In another case—the specimen from which I showed at the time at the Midland Medical Society—her chief symptom for a long time was haemorrhoids, which were only finally relieved by the removal of a fibroid which had completely blocked the pelvis.

Yet another and very interesting case: A lady suffered from severe headaches, from easily getting tired, from pain in the back, and from that most awkward of symptoms, a very frequent desire to pass water; her life was miserable. Four years previously I had operated upon her in the night for a primary rupture of a tubal pregnancy. The uterus then felt perfectly normal. From her symptoms and from a distinctly neurotic history it was thought that her trouble was all a question of nerves. Since it continued I was asked to see her, and on examination found what felt like a fundus thickened from front to back and pressing down upon the bladder. I felt certain that there was a small fibroid, with probably adhesions

* Read at a meeting of the Birmingham Branch of the British Medical Association.

to the bladder. Operation showed that the fibroid, about the size of a large walnut, was in the anterior uterine wall, and that the bladder passed up over the front of it, to be adherent to the fundus of the uterus. Hysterectomy has restored that lady to good health. She is free from headaches, from easily getting tired, and from backache, and, needless to say, she has no trouble with her bladder.

The whole question as to whether a patient with an increasing fibroid of the uterus (by an increasing fibroid I mean one that is giving rise more and more to symptoms) should have that fibroid removed or not depends entirely upon the facts as to the mortality of the disease and the mortality of the operation done for its relief. The statement that fibroids do not kill is not merely a "terminological inexactitude," it is absolutely untrue from beginning to end. In my own experience I know of two cases that have bled to death before I could admit them for operation, in both cases within a few days of being seen. I know of two cases of fibroid polypi that have died from haemorrhage. It may not be generally admitted, but I am sure that those who have had experience will agree with me that a certain proportion of the deaths after operation are not due in any way to the operation, but to the disease for which the operation has been done. I know, too, of a case not dying directly of haemorrhage, but from the effects of the fibroid. It is as follows, and it has impressed itself very strongly on me. Twelve years ago I saw a lady in consultation with Dr. Ware, then of King's Heath. I had known her socially for some time. She was one of the brightest and most capable of women. It appeared that she had had profuse loss and pain lasting about ten days at every period for two or three years. The pain was very intense. She had a fibroid rising above the pubes, and almost blocking up the pelvis. I advised its removal. She and her husband had a great dread of operations, and she, an American lady, went "home" as she called it to see if she could get some relief from an American gynaecologist, an old friend of her family. He advised her to wait for the menopause. Her age was 32. Fatal advice. She struggled on year after year, becoming a complete invalid, bearing her pain without a grumble, and doing what she could at times of her household duties. The losses fortunately became less, but the tumour grew and the pain increased. I did not see her again professionally until two years ago. I found then the tumour nearly up to the ribs; albumen in the water, oedema of feet and legs, a quick small pulse, and great weakness. She wanted me to operate. I was bound to tell her that it meant a more serious operation than it would have been originally. I advised resting in a home for a time first. Her husband said, No; he would not have her run the risk nor would he have her laid up for the necessary time unless I could say for an absolute certainty that it would cure her. The result was it was postponed. I never saw her again, and she died three months ago, worn out by a so-called simple tumour of the uterus. That American gynaecologist has been for some time an ardent hysterectomist.

Then, too, how many of those operated upon would die if they were left alone? This, of course, is difficult to answer with absolute certainty. I believe that a large proportion would die, and I will give my reasons for this belief.

First, I will take my own cases of abdominal hysterectomy—76 in number.

1. Of these there are a certain number that were suffering from persistent and increasing haemorrhage, from profound anaemia due thereto, and from a steadily increasing depression of all the functions of the body—obviously going to die if allowed to go on. The number of these is no fewer than 17.

2. Again, there are those complicated by the presence of malignant disease in addition to the fibroid and certain to die if left alone. Of these there are 3 cases.

3. There are, too, those cases in which the fibroid is wearing out the patient from its very bulk or is seriously interfering with her general health by pressure upon other viscera. Of these there are 24 cases.

4. Finally, I may add those cases complicated by the presence of pyosalpinx or of cystoma of one or both ovaries. Of these there are 5 cases.

One in Class 4 also figures in Class 3, therefore we have 48 cases out of 76 that I believe would sooner or later have died if left alone. Of the 28 other cases how

many, I wonder, would in the course of another year or two have compelled me to put them in one of the four classes I have tabulated? Probably a good proportion.

Having briefly reviewed my own cases I would draw attention to a table of degenerations and complications in a series of 1,398 cases of fibroids of the uterus operated upon by Noble, Scharlieb, Cullingworth, Ellice McDonald, August Martin, and others. The conditions found at the operations have been examined and reported upon. At a very conservative estimate 37 per cent. would have died from existing complications had no operation been done.

In my own cases I have not mentioned any complications except those that I consider would have led to a fatal result. A prominent feature, and one that I think accounts for so much pain that is present, is the large number accompanied by inflammatory diseases of the appendages with adhesions that often involve the bowel wall. I have not included these unless the inflammation had reached the stage of pyosalpinx. We may take it, then, that at the very least 30 to 40 per cent. of cases of fibroids would end fatally if left alone. Personally I believe this percentage to be below the mark, and the more I see of these cases the more I am coming to the conclusion that we ought to put them on the same footing as ovarian cysts. Given a cyst, remove it. Given a fibroid, remove it.

Now let us see if the mortality of hysterectomy is anything like as great. I suppose, if you take all the leading operators, the average mortality works out at anything from 1 or 2 to 5 per cent. In my own 76 cases I have had 2 deaths. One was a long way off in the country; I did not see her again after operation. The doctor wrote to me on the sixth day after operation to say that she had died suddenly of pulmonary embolism. The other, a few weeks ago, died on the ninth day of pneumonia. This latter death was due really to the utter inability of the patient to fight the disease, because she was absolutely blanched (waxy in appearance) from long-continued haemorrhage. This mortality of 2.6 compares favourably with the mortality due to the disease.

But I think it is only right to compare the morbidity as well as the mortality. We know that nearly all cases of fibroids cause painful and disabling symptoms. Are all the cases operated upon quite well and free from trouble? Not quite all. This, however, is the fault of the operator, and not of the operation. Amongst my earlier cases, cases in which my asepsis was less perfect than it is now, I had two very disastrous results. One, apparently, got perfectly well and remained so for about nine months, and then developed an abscess behind and to the right of the cervix, due to suppuration round one of the buried ligatures. This I opened and drained, but ultimately it spread and finally it passed up behind the peritoneum into the loin; this long-continued suppuration, on the top of years of suffering from her tumour, wore the patient out and she died twelve months after the operation. Another case developed a stone in the bladder, due to ulceration into that viscus of a silk ligature. Two of my cases of myoma plus carcinoma have since died from a return of the malignant disease. With these exceptions all are in good health. I have dwelt somewhat upon treatment by abdominal hysterectomy. As a rule, this means the supravaginal operation, leaving the cervix behind. Where there has been malignant disease and in a few of my earlier cases the cervix also has been removed.

A few words now as to other methods of treatment. In a small number of cases, with a small myoma and with no complications, vaginal hysterectomy can be performed and should be performed in preference to abdominal.

Myomectomy is, of course, a recognized form of treatment. It can be done if the patient is under 40 years of age, that is, if she is of the child-bearing age, if pregnancy is co-existing, if a tube and ovary capable of performing their functions can be preserved, and if it can be done so as to leave a uterus practically sound. The great drawback to this operation is that when it is done and you go downstairs and face the anxious relatives you are certain to have fired at you, "Will it come again, doctor?" What can you say except, "I don't know." Probably it will. In the last few months I have had to perform hysterectomy after a previous myomectomy twice. One lady had had a fibroid removed in London twelve months earlier, and from the other patient—a young lady—I had myself previously removed a large pedunculated subperitoneal fibroid.

Minor measures, such as curetting and electrical treatment, are, I believe, absolutely useless. As regards the latter, I confess frankly I have had no personal experience, but that conditions I am constantly meeting on the operating table can be cured by electrolysis I absolutely refuse to believe.

We come now to the much-vexed question of oöphorectomy. We used to get fairly good results from it. Even now, given a small fibroid with appendages so inflamed, so diseased as to demand removal, I would remove the appendages and leave the uterus. As a routine treatment of fibroids it is not to be compared with hysterectomy.

1. The operation of oöphorectomy is attended by quite as large, if not a larger, mortality than hysterectomy.

2. It is quite as difficult an operation to perform, and takes very nearly as long.

3. The immediate post-operative condition is much more distressing, there being much more pain after oöphorectomy than after hysterectomy.

4. The general convalescence is longer and much less easy.

5. The ultimate cure cannot, on the face of it, be as certain. Four times have I had to do hysterectomy for fibroids in cases from which the appendages had been previously removed.

One of the good points about abdominal hysterectomy is the easy convalescence, the freedom from pain on the part of the patient, the freedom from anxiety on the part of the surgeon. If you think of the anatomy of the parts, you will realize that when there is a fibroid in the uterus the broad ligaments will be more or less on the stretch. If you remove the appendages there must be a strain on the ligature, a force constantly tending to push it off, and this keeps the surgeon in a condition of anxiety for the first twenty-four hours. If you do a hysterectomy, you reduce rather than increase the stretching of the broad ligaments; in fact, you do away with it altogether. In the Trendelenburg position, with all the bowels and omentum tucked up in the abdomen away from the pelvis, one can fashion the peritoneal flaps, tie the vessels so that the stumps drop under and can be easily buried under the peritoneum. I may say that I never suture the cervix. I simply bring the anterior and posterior flaps of peritoneum together with a continuous fine silk suture. At the end of the operation you can look down into the pelvis, and there is between the bladder in front and the rectum behind nothing but the line of suture visible, lying in the pelvic floor with no strain whatever upon it. If the appendages are not diseased I do not remove them.

In conclusion, I would say that I hope I have not spoken too strongly on this matter, but I want every one to recognize that the sooner these cases are seen to the better. I know perfectly well that others, knowing quite as much, perhaps more than I do, about it, may not agree with all that I have said. No one is free from errors of judgement as well as of practice; and, holding as I do that no man should believe implicitly that he *must* be right, I am open to conviction on many points, but I certainly hold to the opinions I have expressed. I believe in them, for I have come to them from a good many years' experience.

CAESAREAN SECTION IN A CASE OF CONTRACTED PELVIS WITH TWIN PREGNANCY.

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ON March 4th, 1906, I was asked by Dr. Gerald Child of Hythe, Southampton, to see a woman daily expecting confinement, who had consulted him complaining of headache and vomiting. He found that she had albuminuria, and noticing her small size, made a careful examination of the pelvis. As there seemed to be such contraction that delivery would probably entail the sacrifice of the child, he asked me to see the patient, in view of the possibility of Caesarean section. Her circumstances being poor, she was removed the same day to the Royal South Hants and Southampton Hospital.

The patient was 35 years of age, and had been married one year. Her height was 4 ft. 9 in., and she had marked rickety deformity of the thighs and legs. The abdomen was very prominent, with the uterus extending above the ensiform cartilage. The fetal head was felt in the right iliac fossa, the legs apparently above and to the left, with the back to the front; the fetal heart could be heard on the right side about the level of the umbilicus. Twins were not suspected. There was no oedema. The urine contained $\frac{1}{2}$ albumen, granular casts being present. She had a little dyspnoea and cough, but the physical examination of the heart and lungs was negative. My colleague, Dr. Keele, kindly examined her with me under anaesthesia. The promontory was higher than usual, while the diagonal conjugate measured a little under 4 in. The upper part of the sacrum felt convex from side to side, projecting forwards into the pelvic cavity; the side walls of the inlet were contracted, being easily felt by the fingers all round. The greatest diameter of the fetal head could not be made to enter the brim by pressure from above. Though the true conjugate was about 3½ in., it was thought that, with the general contraction, the birth of a living child would be improbable; the patient was therefore offered the alternative of Caesarean section. This, after consultation with her husband, she accepted.

Operation.

Labour commenced on March 6th, and when the os was dilated enough to admit two fingers the operation was performed.

The incision, made about 1 in. to the right of the middle line, was some 6 or 7 in. in length, the upper end being about 2 in. above the navel. The fibres of the rectus were separated with the finger, and the posterior sheath and peritoneum divided. A small incision in the uterus was made, the placenta being met with at once on the anterior wall; the opening was rapidly enlarged both upwards and downwards, and the hand introduced at one side of the placenta, which was pushed aside; the child was extracted by the head, and the cord divided between pressure forceps. As the uterus was still large, the hand was again inserted, and a second child found enclosed in a separate bag of membranes; this was removed by the feet; the second placenta was attached to the posterior wall. The two placentae and membranes were peeled off and removed, and the uterus brought outside the abdomen. The uterine wall was closed by deep interrupted sutures of silk, including everything except the mucous membrane; a continuous suture of fine silk closed the peritoneum over the wound. A small piece of Fallopian tube was removed on each side to prevent future conception. The uterus was very flabby for a long time, in spite of compression and hot cloths, and only began to contract properly when the deep sutures were tied. No liquor amnii escaped into the abdomen, and a very little sponging sufficed to remove two or three small clots.

As she was somewhat collapsed the abdomen was closed quickly by interrupted through and through silkworm gut stitches and about two pints of saline fluid injected into a vein in the arm. The elder child was the smaller, and both required some assistance before proper respiration was secured.

After-history.

The patient soon recovered from the collapse, but during the first twelve hours she passed only 6 oz. of chocolate-coloured urine, which was highly albuminous; it seemed as if suppression were taking place; however, during the next twelve hours she passed 32 oz., which was clear, and afterwards about 60 oz. a day. Albumen and casts persisted for about four weeks and then disappeared. At the end of the first week she had some pain in the breasts with a rise of temperature, both babies vomiting after being suckled; breast feeding was therefore stopped and the trouble soon subsided. The wound healed by first intention. At the end of the third week a slight attack of phlebitis occurred in the left leg and necessitated another fortnight in bed. She was discharged perfectly well with her babies on April 19th.

Diagnosis.

No notice was taken of external measurements, these being rarely of any practical value in estimating the size of the brim or room in the cavity of the pelvis. Reliance was placed entirely on examination under anaesthesia. The position of the promontory, the convexity of the sacrum and the contraction of the side walls combined with the signs of rickets, all tended to show that the pelvis was of the small rickety type. It is true that the diagonal conjugate was something under 4 in., making the true conjugate about 3½ in. and therefore larger than the size usually considered an indication for Caesarean section. Perhaps the most important fact was that the largest diameter of the fetal head could not be made to enter the brim by pressure in various directions from above. Twins were not suspected, being only found out when the uterus was open, and this must be confessed as an error in diagnosis.

The elder child was small and might have been dragged through by the forceps, but the second was of ordinary size and would have required craniotomy for delivery.